

Notice of Allowability	Application No.	Applicant(s)	
	09/892,500	HOSOI, TORU	
	Examiner	Art Unit	
	Krystyna Suchecki	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Response filed 05/13/04.
2. ☒ The allowed claim(s) is/are 1,4,10-13,15-21,23-25 and 27-33.
3. ☒ The drawings filed on 28 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Frederick Cooperrider on 07/22/04.

3. The application has been amended as follows:

4. In Claim 10, at line 2, delete "part" and insert --array--

5. In Claim 25, at line 2, delete the two instances of "parabolized"

6. In Claim 29, replace lines 4-7 as follows

--a waveguide part of each waveguide in said channel waveguide array that connects to said first sector form slab waveguide is shaped in a tapered configuration; and
a waveguide part of each waveguide in said channel waveguide array that connects to said second sector form slab waveguide is shaped in a tapered configuration.--

Allowable Subject Matter

7. Claims 1, 4, 10-13, 15-21, 23-25 and 27-33 are allowed.

8. The following is an examiner's statement of reasons for allowance:

9. Claim 1 contains allowable subject matter for at least the reason that the prior art of record fails to teach or reasonably suggest an arrayed waveguide grating comprising a first channel waveguide disposed on a substrate for receiving a multiplexed optical signal

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as combined with a second channel waveguide wherein a waveguide part in the connected area of the second channel waveguide has a parabolic configuration as claimed. While Okawa teaches a bi-directional arrayed waveguide grating device with parabolized waveguides on the input section, a multiplexed optical signal does not enter the opposite side of the device upon reversal so as to cause the parabolized parts to be used to output the signal. Instead, the parabolized parts remain on the input side (Column 7, lines 43-54). No motivation to move the parabolized parts to the output can be found in the prior art of record, and instead, the prior art teaches reasons to keep the parabolized parts on the input, as is shown in Okamoto (JP 10-197735) for the teachings of Figures 9 and 10 at paragraphs 24-26 and 34 of the translation, wherein Okamoto teaches that the input parabolization determines what flatness occurs at the output and also determines the amount of cross-talk that occurs as a signal traverses the system. The emphasis on keeping the parabolized parts on the input side of the array waveguide offers no motivation to move the parts to the output side.

10. Claim 16 contains allowable subject matter for at least the reason that the prior art of record fails to teach or reasonably suggest a method for fabricating comprising forming steps and connecting steps to make an arrayed waveguide grating device with an input for a multiplexed optical signal and an output channel waveguide wherein each waveguide of the output channel waveguide has a parabolic shape as claimed.

11. Claim 24 contains allowable subject matter for at least the reason that the prior art of record fails to teach or reasonably suggest an arrayed waveguide grating comprising an input channel for a multiplexed optical signal and an output channel waveguide for a plurality of optical signal separated from the multiplexed optical signal such that a

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waveguide part of each optical waveguide of the output channel waveguide is shaped in a parabolic configuration as claimed.

12. Claim 32 contains allowable subject matter for at least the reason that the prior art of record fails to teach or reasonably suggest a multiplexer/demultiplexer apparatus comprising a slab waveguide with a plurality of input ports and an output channel waveguide comprising a plurality of output optical waveguides wherein each output optical waveguide is attached to the slab waveguide as an output port by a waveguide portion configured in a parabolic shape as claimed. While art such as Kaverhad (US 5,179,605) teaches a slab waveguide with input and output waveguides attached to the slab via tapered waveguide parts, the multiplexing/demultiplexing function of the device is not taught or suggested, nor is the parabolic nature of the waveguide parts.

13. Claims 4, 10-13, 15, 17-21, 23, 25 and 27-31 and 33 contain allowable subject matter at least by virtue of their dependency.

14. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (571) 272-2495. The examiner can normally be reached on regular working days and hours.

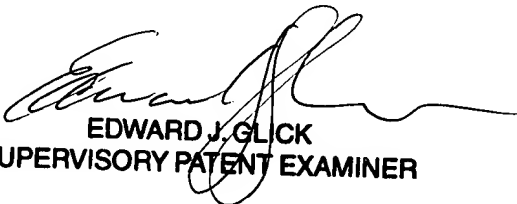
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16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NO

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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER